

HOME VENTILATION WITH HEAT RECOVERY

USER MANUAL

Ventilation Unit M-WRG-S



Important user information

Ventilation with heat recovery

M-WRG-S is a decentralized ventilation system with heat recovery from Meltem. It adds to the value of your home and creates a healthier indoor climate, and is a protective measure against moisture and mold damages in your home.

Ventilation by opening windows especially during cold seasons, belong to the past. From now on, fresh and filtered air is supplied fully automated. The stale air is extracted from your home and while passing through the heat exchanger its warmth is transferred to the fresh air. While doing so, the M-WRG-S ventilation units have minimum power consumption. You save heating costs, increase the comfort of your home and at the same time reduce the impact on the environment by reducing CO₂ emissions.

Of course you still may open your windows - especially during warmer days.

A family of four produces daily an average of 10-14 litres of moisture, due to cooking, laundry, personal hygiene, and breathing of inhabitants, plants and animals! This excessive amount of moisture, within the interior air, is extracted through the M-WRG ventilation unit and therefore prevents the forming of mold and resulting building damages. At the same time, fumes from floors, furniture and a too high CO₂ concentration in the air, which can lead to fatigue and health issues, will be extracted from the interior rooms and replaced by fresh and clean air.

Directions for correct usage

Please read this manual carefully and follow the instructions contained in this manual. Familiarize yourself with the M-WRG-S ventilation unit, and pay attention to the warnings and cautions contained in this manual.

- Never operate the M-WRG-S ventilation unit without filters. Only with the original filters from Meltem, the units will remain clean, fully operative, and have a long lifespan.
- The M-WRG-S ventilation unit may only be operated once installed correctly.
- When ventilating basements or similar rooms we advise to be cautious (especially during the summer season and warm weather), due to the fact that the moisture in the air will condense on cold interior walls and - despite ventilation – moisture damages can occur. Therefore only ventilate at night during warm weather seasons! If you would like to ventilate such rooms with a M-WRG ventilation system, please consult with the manufacturer prior to purchase.

- Never cover the M-WRG-S ventilation unit or any part of it with e.g. cabinets, blinds or curtains. A minimum distance of 30 cm to any furniture is required, in order for the M-WRG-S ventilation unit to remain fully operable.
- The M-WRG-S ventilation unit has been designed for continuous operation and a long lifespan. During cold seasons, the M-WRG-S ventilation unit should be operated continuously. High efficient DC motors and innovative electronics ensure a very low power consumption of approx. 3.8 Watt at ventilation rate I. Only a continuous operation achieves a permanent extraction of moisture and condensation. If this does not occur, it is possible that condensate will gather in the unit.
- If a high concentration of moisture occurs, we recommend to regularly ventilating the room at the highest ventilation level for 10 minutes, in order to eliminate any possible condensation inside the unit.
- In order to guarantee a smooth operation, especially during low exterior temperatures (below -5°C), you should avoid interior temperatures below 15°C.

Caution: In case of exterior temperatures below 0°C, icicles may form at the façade covers. These should be removed for safety purposes.

Filter replacement

The ventilation unit automatically monitors the filter status. An acoustic warning signal will inform you, when the filters need to be replaced.

However, **for hygienic reasons, it is strongly recommended to replace the filters at least once per year**, ideally before the heating season.

For a reliable operation of the units and for your own safety, only original and certified parts from Meltem shall be used. Otherwise this may void the warranty and Meltem will not be liable for any damages.

We hope you will enjoy your new M-WRG home ventilation system with heat recovery!

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1. You have made the right choice!

With the **M-WRG-S** decentralized ventilation unit with heat recovery, you acquired a high quality product. M-WRG-S stands for Meltem – heat recovery – with comfort. Meltem's „know how“ of more than 30 years developing and producing decentralized ventilation systems is now combined with their innovative heat recovery process.

Ventilation by opening windows especially during cold seasons, belong to the past. From now on, fresh and filtered air is supplied fully automated. The stale air is extracted from your home and while passing through the heat exchanger its warmth is transferred to the fresh air. While doing so, the M-WRG units have a minimum power consumption. You save heating costs, increase the comfort of your home and at the same time reduce the impact on the environment by reducing CO₂ emissions.

The system is constructed for continuous operation. We guarantee an effective operation as well as a long lifespan of the system if it is correctly used. We hope you will enjoy your new M-WRG home ventilation system with heat recovery!

1.1 Safety and Security

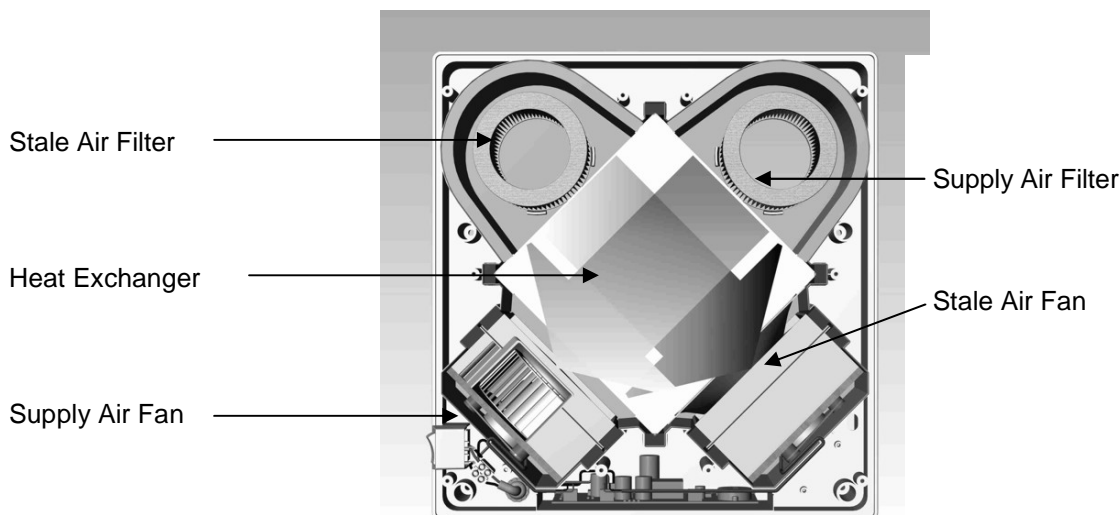
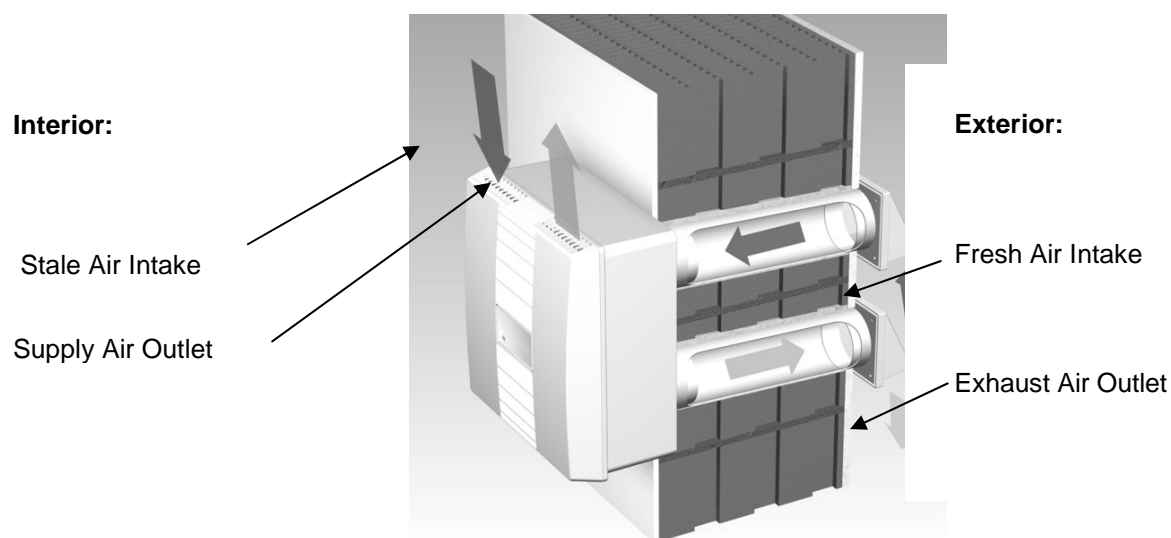
- The M-WRG-S ventilation unit may only be operated once installed correctly.
- For correct installation of the system please follow the instructions of the assembly manual.
- The M-WRG-S ventilation unit may only be used for the ventilation of living space and interior rooms (Kitchens, bathrooms, basements, offices, etc). With rooms that have an excessive build up of dust and corrosive gas emissions, the M-WRG-S ventilation unit may be limited and/or damaged in its operating capacity.
- Please familiarize yourself with the operating modes and procedures of the M-WRG-S ventilation unit.
- The M-WRG-S ventilation unit is especially suitable for the drying phase after the building is constructed and the inhabitants have moved in. It is not suitable for drying a building during construction or to ventilate a building while interior renovations are in progress. A continuously high concentration of dust and/or moisture will clog the filters additionally and overwork the automated extraction of condensate.
- Never operate the M-WRG-S ventilation unit without the suitable filters. The filters protect your health and your living space from exterior environmental influences. Only with the suitable filters, the M-WRG-S ventilation unit will remain clean. Additionally it will prevent the pollution of the electrical components and the heat converter, as well as reduce or prevent full operating capacity of the M-WRG-S ventilation unit.
- Do not install the M-WRG-S ventilation unit into the interior of a cabinet or other furniture. Do not cover the M-WRG-S ventilation unit with a any type of fabric (towel, curtains, etc.) or any other objects (furniture, blinds, etc.).
- Please follow the instructions contained in this user manual.
- Please follow the maintenance instructions contained in this user manual.
- **Important Indication according to DIN EN 60335:** This M-WRG-S ventilation unit is not to be operated by persons (including children) with limited physical, sensory or mental capabilities, or lack of experience and/or lack of knowledge. Except if they are supervised, or were given instructions how to use the M-WRG-S ventilation unit, by a legal guardian responsible for their safety and security. Children should be supervised, in order to ensure that they are not playing with the M-WRG-S ventilation unit.
- **If these Safety and Security regulations are not regarded, Meltem will not be held liable!**

Safety Advice for installing the M-WRG-S ventilation unit in rooms with open fire places: For planning and installation of the ventilation system, the fireplace safety regulations (i.e.FeuVo) have to be met! Before operating the M-WRG-S ventilation unit, the fireplace regulations have to be discussed and approved by the responsible official authorities and the chimney sweeper.

1.2 How does the M-WRG-S ventilation unit work?

The heat exchanger core uses the heat of the outgoing warm stale air to temper the fresh inflowing air. The unit has two fans, one fan extracts the warm stale air from the interior and the other fan draws in fresh air from the exterior.

As the air streams move through the air ducts of the heat exchanger core, heat is transferred from the warm passage to the cold, while the airstreams are never combined. The cooled stale air is led out and the pre-tempered fresh air then streams into the room without causing a draft.



1.3 M-WRG-S ventilation unit overview

Casing

Cover

Dual switch:

- Power switch ON/OFF
- 3-level switch for Ventilation Rate

Supply Air Outlet

Stale Air Intake

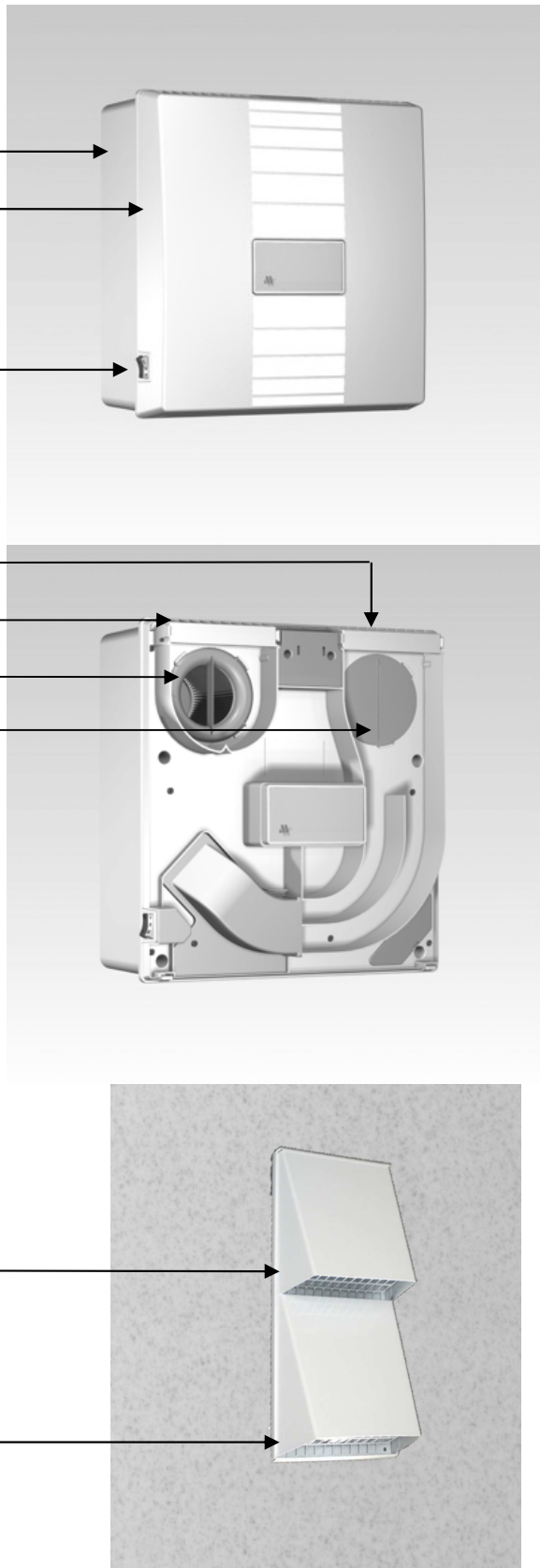
Ring Cover for Stale Air Filter

Cover for Supply Air Filter

Facade Cover: Ventilation Hood

Fresh Air Intake

Exhaust Air Outlet



2. Start up and Operation

Please ensure that the M-WRG-S ventilation unit has been properly installed by an expert, according to the assembly instructions and that the exterior of the unit is not damaged. The interior and exterior intakes and outlets must not be covered or obstructed.

Turn on the M-WRG-S ventilation unit by switching the Power ON/OFF switch on the left bottom side of the unit to ON and select a ventilation rate with the alongside positioned 3-level switch.

To ensure a well ventilated and healthy room climate it is recommended to run the M-WRG-S ventilation unit **continuously** at ventilation level I or II. If needed, switch for a limited period of time to ventilation level III.

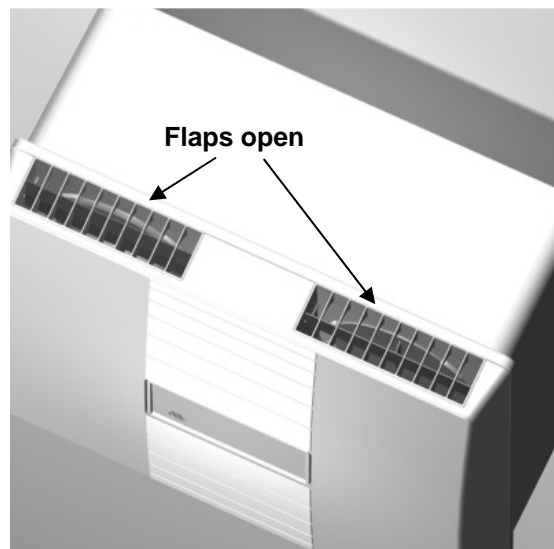
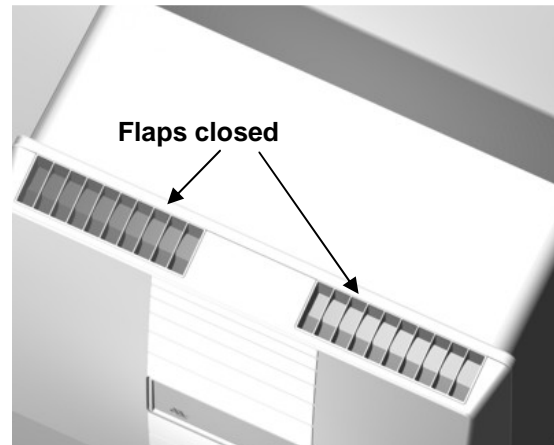
During the **winter season**, it is recommended to ventilate the room once daily for 10 minutes at the highest ventilation rate (III), in order to avoid any condensate buildup inside the M-WRG-S ventilation unit.

Caution: Before turning off the M-WRG-S ventilation unit while exterior temperatures are below 0°C, the unit has to be run for a minimum of 10 minutes at level III for antifreeze protection.

Air flaps:

The air flaps will be automatically opened or closed if the M-WRG-S ventilation unit is switched ON or OFF. In case of a malfunction make sure the flaps are not blocked and repeat once again to switch the unit ON or OFF. In case of a power outage the air flaps will be closed automatically.

After the M-WRG-S ventilation unit is switched OFF, please wait a minimum of 15 seconds before switching it ON again.



3. Filter Replacement

The clogging of the filters is monitored automatically by the M-WRG-S ventilation unit. In case the filters need to be replaced, an acoustic signal will inform 2–3 weeks prior to the replacement. The intervals of the acoustic signal will shorten over the time period when the filter replacement is necessary. You must change the filters if the acoustic signal sounds for a period of one second per hour.

3.1 Filter selection

- For the M-WRG-S ventilation unit you have multiple filter options. For normal operation the *Standard Filter* (G4) is sufficient.
- For persons suffering from allergies, you may choose to install the *Allergy Filter* (F7). (only needed for supply air)
- In order to prevent unpleasant odours and emissions or even harmful gases (gasoline, nitrogen oxides, etc.) from entering your home, you may choose to install the *Activated Carbon Filter* (F6). (only needed for supply air)
- Only use original filters from Meltem! Otherwise Meltem cannot guarantee a smooth operation and may not be held liable for any malfunctions.

Caution

- **Always turn the M-WRG-S ventilation unit off before you open the cover and replace the filters!**
- **Always replace both filters at the same time!**
- **The efficiency of the unit depends on the permeability of both filters!**

Model Nr.:	Description	Model
5571	Standard filter	M-WRG-FS
5572	Allergy filter	M-WRG-FA
5573	Activated Carbon filter	M-WRG-FK

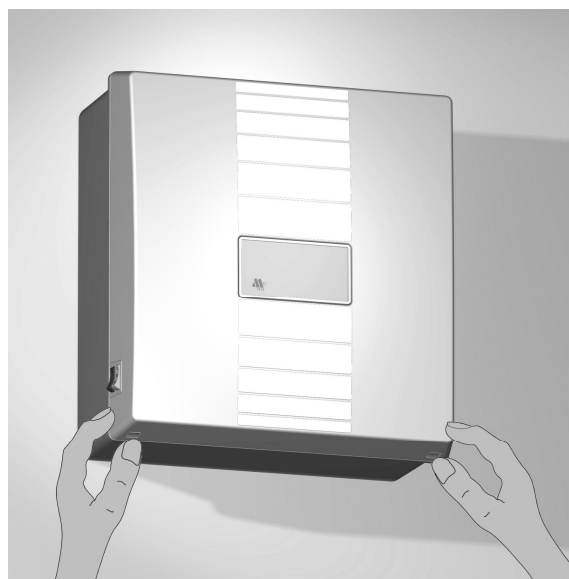
Replacement filters can be ordered at your local HVAC supplier or at www.meltem.com.

3.2 Replacement of Filters

No tools are required for filter replacement. Both filters should be replaced at the same time.

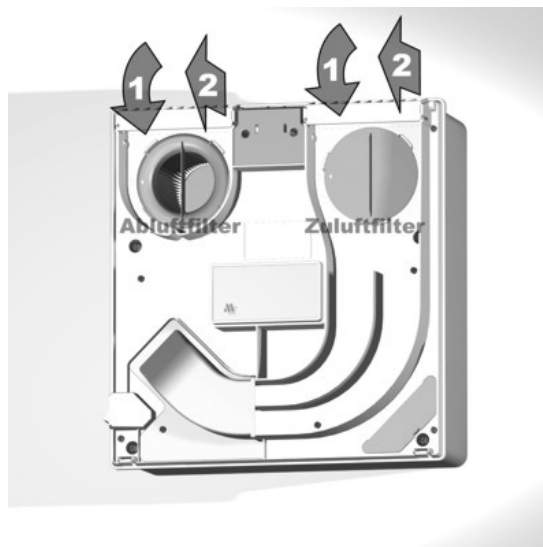
3.2.1 Remove unit cover

- Turn OFF the M-WRG-S ventilation unit. The air flaps will close automatically.
- With both thumbs, press down the two hooks on the bottom of the M-WRG-S ventilation unit and at the same time grab the edge of the cover with both index fingers and then carefully lift the cover up and towards you.



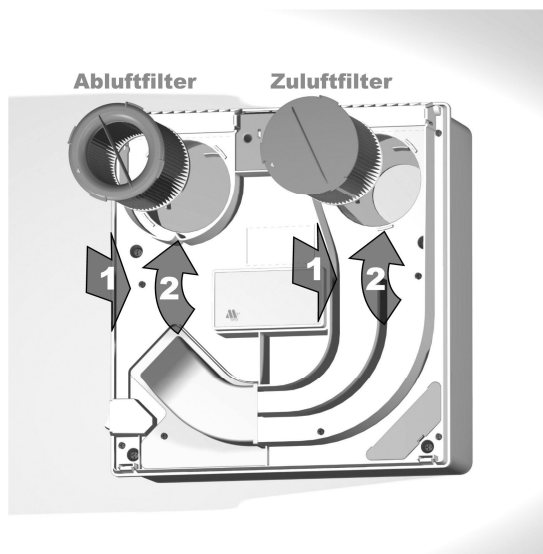
3.2.2 Remove old Filters

- Twist left the filter covers and detach
- Remove old filters and discard
- Clean the cap with a damp cloth



3.2.3 Insert new Filters

- Insert new filters
- Insert the filter covers (making sure the marked arrows on case and cover are aligned) and turn right
- The marking (arrow) on the cap has to align with the marking on the M-WRG-S ventilation unit
- Make sure the covers sit flat and tight on the cover
- Repeat this process for both supply and stale air filter caps.

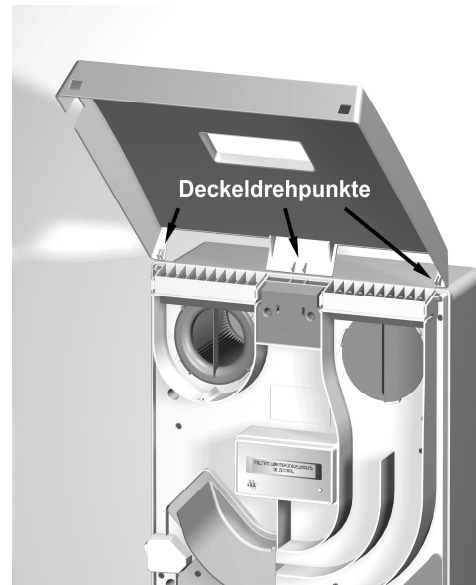


Note:

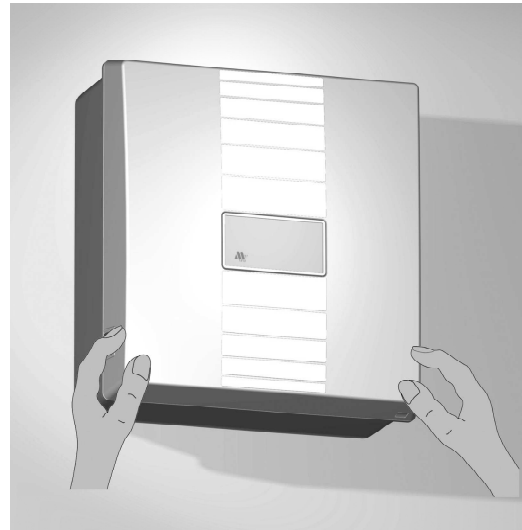
Allergy Filter or Activated Carbon Filter need to be installed for the supply air only (on the right side of the unit)

3.2.4 Put back on cover

- Grab the cover with both hands and position it as the illustration demonstrates
- Move the cover downwards and ensure the edges snap properly into the rotation screws.
- Close the cover all the way until it sits loose in place



- Carefully push the cover closed on the bottom edge until the hooks on each side snap into place.
- Turn the M-WRG-S ventilation unit back on with the power switch



4. Cleaning the M-WRG-S ventilation unit

The M-WRG-S ventilation unit is made of high quality synthetic material and only needs little cleaning. From time to time we recommend to clean the surface of the unit with a damp cloth. In order to preserve the parts we recommend only to use mild cleaning detergents.

Caution! Never use cleaning detergents that contain acids or corrosives! Never use a high pressure or steam cleaners!

5. Trouble shooting

Problem	Reason	Solution
M-WRG-S ventilation unit does not work	Installation error	Let a certified electrician test the connecting wires
M-WRG-S ventilation unit does not work	Power switch, motor or main control is/are defective	Let a certified electrician test the ventilation unit
Air flaps do not open once the M-WRG-S ventilation unit is switched ON	If the M-WRG-S ventilation unit is not operated for a longer period of time or operated for the first time, the motor may not receive power	The M-WRG-S ventilation unit should be switched ON and OFF again by the operator
Air flaps do not open once the unit is switched ON	Air flaps may be clogged (e.g. dirt, polystyrene, plaster, etc)	Remove any clogging material (remove cover to do so see User Manual section filter replacement)
M-WRG-S ventilation unit starts to beep in intervals	The M-WRG-S ventilation unit signals a soon to be done filter replacement	Replace the filters.(see User Manual, section filter replacement)

6. Antifreeze Protection

The M-WRG-S ventilation unit is equipped with an antifreeze protection. In case of very low exterior temperatures, the M-WRG-S ventilation unit will automatically start up the anti freeze protection mode. Due to these reasons we advise not to turn the M-WRG-S ventilation unit off during cold seasons. In case the M-WRG-S ventilation unit has to be turned off, you must operate the M-WRG-S ventilation unit for a minimum of 10 minutes at ventilation level III, in order to remove any remaining moisture in the unit.

During cold seasons, we recommend to keep the bedrooms where the M-WRG-S ventilation unit is installed tempered at minimum of 16°C to 18°C to ensure proper operation. Higher interior temperatures guarantee a larger amount of heat recovery.

7. Technical Data

Technical Data	M-WRG-S Ventilation Unit
Ventilation air volume (m ³ /h)	15/30/60**
Fan speed	3 levels
Heat exchange core	aluminium plate cross-flow heat exchanger
Heat recovery rate (%)	76
Air Leakage (%)	0.1
Fan	high efficiency radial fan with long life DC motor
Power consumption (W)	3.8 / 5.2 / 12.5
Specific Power consumption (W/m ³ /h)	0.17
Max. current (A)	0.06
Power cable (mm ²)	2 x 1.5
Operating voltage (V/Hz)	230 / 50
Noise level (Lp in dB (A) 10 m ²), concealed installation	15.5 / 24 / 36
Noise level (Lp in dB (A) 10 m ²), wall mounted	19 / 24 / 35
Weight (kg)	approx. 8.1
Air duct diameter (mm)	100
Ventilation unit dimensions (W x H x D) in mm	409 x 388 x 196
Filter class / filter surface in m ²	
Standard filter	G4 / 0.36
Allergy filter (optional)	F 7 / 0.32
Activated carbon filter (optional)	F 6 / 0.12
Fully automatic air flap control, even during blackouts	yes
Condensate drainage	through exhaust air duct
Filter replacement indicator	acoustic
Antifreeze protection	yes
International Protection Rating (IP)	IP X1 / IP X4
Approved by German Institute for Civil Engineering (DIBt)	Z-51.3-138
TÜV certified (CE)	yes

